

STATEMENT OF WORK (SOW)
Laser Trackers, Software, and Training
RCP: N6588816RC

1. Scope:

- 1.1. This Statement of Work (SOW) identifies the Government's requirement for (2) each, three-dimensional (3D) laser tracking systems, related equipment, system software, installation and training services for the Fleet Readiness Center Southwest (FRCSW), Naval Air Station (NAS) North Island, P.O. Box 357058, San Diego, CA 92135-7058.
- 1.2. The services requested are for providing turn-key software and training on the two (2) laser tracking systems to FRCSW personnel. The term "turn-key" implies that the two (2) laser tracking systems will be supplied with all of the necessary equipment, supplies, and current software required for normal operation.
- 1.3. The period of performance (POP) for the training shall be for five (5) conjoining days to be determined at the time of award.

2. Applicable Documents:

- 2.1. ASME B89.4.19 Performance Evaluation Tests and Geometric Misalignments in Laser Trackers
- 2.2. ASME B89.7.3.1-2001 Guidelines for Decision Rules: Considering Measurement Uncertainty Determining Conformance to Specifications
- 2.3. ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories
- 2.4. OPNAVINST 3960.16A, Navy Test Measurement and Diagnostic Equipment (TMDE), Automatic Test Systems (ATS), and Metrology and Calibration (METCAL)
- 2.5. NAVAIRINST 13640.1B – Naval Aviation Metrology and Calibration Program
- 2.6. NAVAIR 17-35QAC-01 (Series), Navy and Marine Corps Audit/Certification Standard

3. Government Requirements:

- 3.1. The Contractor must have full knowledge of the laser tracking systems system being provided and be able to perform all training in accordance with (IAW) current commercial practices.
 - 3.1.1. A proposal on company letterhead identifying each software item (i.e. Verisurf, application software bundles, etc.) and hardware item (i.e. laptop) separately within thirty (30) days from the time of award
 - 3.1.2. A list of all software applications that will be loaded onto the laptop (i.e. operating system, Verisurf, proprietary software, etc.) including version numbers within thirty (30) days from the time of award
 - 3.1.3. A copy of the agreement between the publisher and its resellers where the publisher authorizes resellers to sell licenses and extended warranties shall be provided with your proposal. This agreement should be attached to the End User License Agreement (EULA) with the reseller and a

paragraph shall be added to incorporate it into the EULA, both of which should also be included in the proposal.

3.2. Technical Requirements: The Contractor is to provide two (2) 3D laser tracker systems. The laser trackers must meet the following specifications:

- 3.2.1. Water proof and dust resistant, IP52 or greater
- 3.2.2. Compatible with Verisurf 3D Measurement Solutions
- 3.2.3. The software should be able to interface to the following hardware systems, but not be limited to; Faro ARM, Faro laser trackers, Romer scan/probe ARM, Leica laser trackers, API (Automated Precision Inc. laser trackers, Zeiss CMM's (coordinate measuring machine) with iplus interface
- 3.2.4. Designed for portable use and ease of transportation
- 3.2.5. Have a combined head and controller weight of less than 40 pounds (lbs)
- 3.2.6. Support Spherically Mounted Retroreflectors (SMR) continuous scanning of at least 300 points per second supporting and including cameras to identify and auto locate targets and operate laser trackers from the computer
- 3.2.7. Must support and include cameras to identify and auto locate targets and operate laser trackers from the computer
- 3.2.8. Support and include a remote to operate and "shoot" while not at the computer
- 3.2.9. Linear working range of 250 feet (ft.)
- 3.2.10. Angular range of 360 degrees
- 3.2.11. Elevation range of 120 degrees (+75 degrees / -45 degrees)
- 3.2.12. Maximum angular uncertainty of $\pm 0.0008''$ (inch) $+ 0.00007''$ (inch)/feet (ft.) from center tracker head
- 3.2.13. Distance resolution of 0.1 micrometers or $0.00004''$ (inch)
- 3.2.14. Accuracy of 0.0039 at 250 feet (ft.)
- 3.2.15. Maximum uncertainty of $\pm 0.0008''$ (inch) $+ 0.00007''$ (inch)/feet from center tracker head
- 3.2.16. Level accuracy of +/- two (2) arc seconds
- 3.2.17. Contain class II laser(s)
- 3.2.18. Working temperature range: 40 degrees Fahrenheit (F) to 100 degrees Fahrenheit (F)
- 3.2.19. Meet ISO 17025 standards

3.2.20. Each laser tracker system should include the following:

- 3.2.20.1. Folding, telescoping stand between 41" (inches) and 57" (inches) in length
- 3.2.20.2. Trim out leveling base
- 3.2.20.3. 1.5" (inch) Standard Accuracy Break Resistance SMR
- 3.2.20.4. 0.5" (inch) Standard Accuracy Break Resistance SMR
- 3.2.20.5. 0.5" (inch) target nest with one (1) inch offset and ¼ inch shanks
- 3.2.20.6. Brunson thread adapter to add quick link compatible base to any 3.5" (inch) x 8" (inch) instrument thread
- 3.2.20.7. Advanced tool kit which includes the following:
 - 3.2.20.7.1. Six (6) SMR drift nests
 - 3.2.20.7.2. Two (2) stainless steel shankless sphere MT's (metric ton)
 - 3.2.20.7.3. One (1) small, stainless steel SMR edge tool
 - 3.2.20.7.4. Four (4) 1.5" (inch) pin nests, ¼" (inch) pin, 1.0" (inch) offset, without negative cutout stainless steel
 - 3.2.20.7.5. Two (2) 1.5" (inch) pin nests, 3/8" (inch) pin, 1.0" (inch) offset, without negative cutout stainless steel
 - 3.2.20.7.6. Two (2) 1.5" (inch) pin nests, ½" (inch) pin, 1.0" (inch) offset, without negative cutout stainless steel
 - 3.2.20.7.7. One (1) construction ball
 - 3.2.20.7.8. One (1) hard point adapter
 - 3.2.20.7.9. One (1) sphere fit adapter
 - 3.2.20.7.10. One (1) stainless steel extension bar, 5" (inch)
 - 3.2.20.7.11. One (1) stainless steel extension bar, 10" (inch)
 - 3.2.20.7.12. One (1) carrying case
 - 3.2.20.7.13. Two (2) tracker covers
 - 3.2.20.7.14. Two (2) scale bars to protect the trackers

3.2.20.8. Laptop computer systems (one (1) for each system; two (2) total) with the following minimum specifications:

- 3.2.20.8.1. Intel Core i7 Dual Core 2.70 GHz processor or better
- 3.2.20.8.2. 12.0 GB SDRAM - Minimum
- 3.2.20.8.3. 1 TB Hard drive - Minimum
- 3.2.20.8.4. DVD +/- RW
- 3.2.20.8.5. 17 inch screen
- 3.2.20.8.6. Use Windows 7 Enterprise Operating System
- 3.2.20.8.7. MS Office Suite 2013 or newer
- 3.2.20.8.8. Wired optical wheel mouse

3.3. Software Requirements

The Contractor must provide and install the following software on the laptops provided within this request

3.3.1. Verisurf 3D Measurement Solutions 9.0 complete bundle which includes BASIC, MEASURE, ANALYSIS, BUILD, and REVERSE on the laptops

3.3.2. Verisurf add-on software package SOLID on each laptop

3.4. Training Requirement: The Contractor shall provide operator training to FRCSW personnel

3.4.1. The initial training will be for a period of five (5) conjoining days upon receipt of the equipment.

3.4.2. Training shall be conducted between the hours of 0600 AM and 1430 PM

3.4.3. Training shall be provided for up to ten (10) personnel

3.4.4. Training shall be provided on the operation and end use of the Verisurf software where artisans receive certification upon successfully completion of the training

3.4.5. Follow up training will be conducted thirty (30) days after initial training.

3.4.6. Training shall be conducted between the hours of 0600 AM and 1430 PM

3.4.7. Training shall be provided for up to ten (10) personnel

3.4.8. Training shall be provided based off of artisan questions in regards to the past months machine usage.

3.4.9. The Contractor will provide the Government with a summary report detailing the time and date the training service began and ended, a list of topics and time spent on each topic, the instructors name,

the names of the artisans receiving training, and any additional recommended training, tooling, and supplies.

- 3.5. All equipment and accessories shall be shipped via traceable means (i.e. FedEx, UPS, etc.) addressed to the Designated Government Representative (DGR), referencing the contract number, and delivered to:

Fleet Readiness Center SouthWest
Ms. Nicole Ciokiewicz – 63120
Bldg. 825, Bay 3, Quentin-Roosevelt Rd.
NAS North Island
San Diego, CA 92135-7058

- 3.6. The Contractor shall provide a one (1) year standard commercial warranty on all equipment, materials, and supplies provided covering parts, labor, shipping, and handling. All standard commercial warranty work shall be at no additional cost to the Government.

4. Base Access:

- 4.1. The Contractor shall provide the DGR with the full name (first, middle, and last), date of birth, place of birth, citizenship, and full Social Security Number (SSN) of each person requiring base access in order to facilitate the vetting process required for base access at least ten (10) business days in advance of the scheduled site visit:
- 4.2. Upon arrival, all personnel will be required to check-in at the Visitor Control Center (Building 680), which is located near the main gate to Naval Base Coronado. Following receipt of a clearance, personnel will then be required to coordinate with the DGR and obtain visitor badges through the FRCSW Quarterdeck located at Building 94.

5. Inspection and Acceptance

5.1. Certificate of Conformance

- 5.1.1. FAR Clause 52.246-15: COC shall be included in the solicitation and subsequent contract award.

This clause shall be used by the Contractor to certify that all material delivered is in compliance with specification for all laser trackers delivered

- 5.1.2. The Certificate of Conformance (COC) shall function as the Government's inspection and acceptance document. Upon final and complete inspection by the DGR, the DGR shall sign off on the COC. A copy of the COC shall be provided to the Contractor prior to the conclusion of the inspection and acceptance process. The Contractor shall upload the finalized COC as an attachment into the Wide Area Work Flow (WAWF) invoicing system upon creation of the invoice. Failure to include the document may result in the delay of invoice and payment.

- 5.3 Acceptance of laser trackers will be verified against Section 3.3

- 5.4 Software acceptance will be verified against Section 3.4.1

- 5.5 Software licensing certificate must be provided to the DGR

- 5.6 Once each laser tracker is accepted, the appropriate form is to be signed by the DGR, Shop Supervisor, and Contractor. Contractor is responsible for the uploading of the acceptance form into WAWF.

6. Method of Invoicing

- 6.1. Invoicing shall be conducted in accordance with DFAR 252.232-7003 Electronic Submission of Payment and Receiving Reports utilizing the Wide Area Workflow (WAWF) system. Payment of fully certified invoices through the WAWF system shall be made by the cognizant DFAS payments center to the financial institution established in the Contractor's SAM account.

- 6.1.1. Wide Area Workflow (WAWF)

Pay Official DoDAAC – N68732

WAWF Acceptor: William Fields – William.K.Fields@navy.mil

Certifier: Paula Stauffer – Paula.Stauffer@navy.mil